

To: McComb, Martin[McComb.Martin@epa.gov]
Cc: Wall, Dan[wall.dan@epa.gov]; McPherson, Jeffery[McPherson.Jeffery@epa.gov]; Hermann, Karl[Hermann.Karl@epa.gov]; Pierce, Maggie[Pierce.Maggie@epa.gov]; Laidlaw, Tina[Laidlaw.Tina@epa.gov]
From: Spence, Sandra
Sent: Tue 8/18/2015 7:15:30 PM
Subject: RE: Chlorophyll A Method/ Ferrous and Ferric Iron Analyses - Green Color in Water

Marty, hold on for just a few minutes. Dan and I are tracking down another lead on a possible tracer study event. We may need to test for fluorescein as well.

From: McComb, Martin
Sent: Tuesday, August 18, 2015 1:02 PM
To: Spence, Sandra
Cc: Wall, Dan; McPherson, Jeffery; Hermann, Karl; Pierce, Maggie; Laidlaw, Tina
Subject: Re: Chlorophyll A Method/ Ferrous and Ferric Iron Analyses - Green Color in Water

On it. I will have Moira contact Sandy directly

Sent from my iPhone

On Aug 18, 2015, at 12:41 PM, Spence, Sandra <Spence.Sandra@epa.gov> wrote:

Hi Dan and Marty,

I called the lab but Jeff McPhearson is the Chlor A analyst and he is out in the field this week. So I don't think our lab will be able to run samples. Could you check with your lab contractor to see if they could run samples?

Also, I've included one page directions for sampling Chlor A. This method calls for a 0.7 um glass fiber filter. Depending on the method used by the lab, a 0.45 um membrane filter could be used if they are doing a acetone extraction procedure. So, it would be best to figure out the lab's needs and make sure we have the correct filter for sampling. I'm happy to call and talk to the lab once it's been identified. Chlor A samples should be kept on ice or frozen and analyzed as soon as possible – the pigment is photo sensitive so samples need to be kept in a dark cooler.

All other samples can be collected using standard protocols. See attached SOP from R8 Lab.

Here's the sampling plan suggestion:

Each green site of interest collect one of the following:

- ☐ ☐ ☐ ☐ ☐ ☐ ☐ Chlor A – preserve on ice
- ☐ ☐ ☐ ☐ ☐ ☐ ☐ Total phosphorus — low level analysis required
- ☐ ☐ ☐ ☐ ☐ ☐ ☐ Total nitrogen
- ☐ ☐ ☐ ☐ ☐ ☐ ☐ Ferrous iron – run in the field or preserve on ice
- ☐ ☐ ☐ ☐ ☐ ☐ ☐ Ferric iron-run in the field or preserve on ice
- ☐ ☐ ☐ ☐ ☐ ☐ ☐ pH/DO

Compare Data against the following:

- ☐ ☐ ☐ ☐ ☐ ☐ ☐ Chlor A data – Colorado's proposed headwater standards, Carlson trophic index
- ☐ ☐ ☐ ☐ ☐ ☐ ☐ Total phosphorus – MT's approved headwater standards, Carlson trophic index
- ☐ ☐ ☐ ☐ ☐ ☐ ☐ Total nitrogen – MT's approved headwater standards, Carlson trophic index
- ☐ ☐ ☐ ☐ ☐ ☐ ☐ Ferrous/Ferric iron – look at the ratio – if majority is in ferrous state – supports conclusion that color is due to reduced iron
- ☐ ☐ ☐ ☐ ☐ ☐ ☐ pH/DO – help determine if ferrous iron is stable or algal metabolism is evident

<Chlorophyll A Sampling Method.docx>

<Field_Sampling_Procedure_FLDM-720v10.pdf>